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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/712,389	11/13/2000	Hung Chih Chen	5304/449001	9003

32588 7590 10/01/2002

APPLIED MATERIALS, INC.
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EXAMINER

NGUYEN, DUNG V

ART UNIT PAPER NUMBER

3723

DATE MAILED: 10/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

SM.

Office Action Summary

Application No.

09/712,389

Applicant(s)

CHEN ET AL

Examiner

Dung V Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 10-12 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-9,13,14,17-22,24 and 25 is/are rejected.
- 7) ☒ Claim(s) 3,15 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 10-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 5.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 32, 74 and 214. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: , 118, 135, 136 in Fig. 1. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities: typo errors, page 3, line 23, "The an inner" should be "The inner", page 5, line 35, "chambers 152, 154, 156 and 158" should be "chambers 162, 164, 166 and 168", page 8, line 29, "he outer portion". Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1, 2, 4 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Perlov et al (USPN 5,964,653). Perlov et al disclose a carrier head comprising a housing 150 to be secured to a drive shaft 92, a base assembly 204, a loading chamber 206 controlling the position of the base assembly 204 relative to the housing 150, a flexible membrane 210 having a generally circular main portion with a lower surface that provides a substrate-mounting surface and a plurality of concentric annular flaps secured to the base assembly 204, the volume between the base assembly 204 and the flexible membrane 210 forming a plurality of pressurizable chambers 212, 214 and 216, a retaining ring 208 joined to the base assembly 204, wherein each chamber controls a downward pressure by an associated segment of the main portion flexible membrane on a substrate (note Fig. 5, col. 7, line 66 to col. 12, line 37).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 5, 6, 13, 14, 17 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perlov et al (USPN 5,964,653) in view of Lee (USPN 5,851,136). Perlov et al disclose the claimed invention as described above, however, Perlov et al do not disclose the annular flap including a notch. Lee discloses a flap including a notch (note Fig. 10, col. 10, line 62 to col. 11, line 27). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the annular flap of Perlov et al with a notch as disclosed by Lee in order to minimize distortion of the flexible membrane.

10. Claims 7, 8, 18-22 and 25 are rejected under 35 U.S.C. 103(a) as being obvious over Perlov et al in view of Zuniga et al (USPN 6,159,079).

11. The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed

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in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2). Perlov et al disclose the claimed invention as described above, however, Perlov et al do not disclose an annular flag including a widened section adjacent a juncture between an annular flap and a main portion, a horizontal portion extending from the base assembly to the widened section, a rim portion between the base assembly and the widened section, wherein the widened section includes a sloped face on a side closer to the rim and a general vertical face on a side opposite the rim, wherein the rim section is connected to a top vertex of the widened section. Zuniga et al disclose an annular flag including a widened section 186 adjacent a juncture between an annular flap and a main portion, wherein the annular flap includes a horizontal portion extending from a base assembly to the widened section, a horizontal portion extending from the base assembly to the widened section, a rim portion between the base assembly and the widened section, wherein the widened section includes a sloped face on a side closer to the rim and a general vertical face on a side opposite the rim, wherein the rim section is connected to a top vertex of

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the widened section (note Fig. 2, col. 6, lines 33-59). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the annular flap of Perlov et al with a widened section, a horizontal portion, a rim portion as disclosed by Zuniga et al in order to improve chucking of a wafer.

Allowable Subject Matter

12. Claim 23 is allowed.

13. Claims 3, 15 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter: prior art of record fails to disclose or imply a carrier head comprising five pressurizable chambers or a flap connected to a top vertex of the outer annular portion and secured to the base assembly and a second flap connected to a second vertex of the outer annular portion and secured to the base assembly, as specifically recited by applicant's respective claims.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Zuniga '927 and Chen et al are cited to show carrier head having flexible membrane and pressurizable chambers.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung V Nguyen whose telephone number is 703-305-0036. The examiner can normally be reached on M-F, 6:30-3:00.

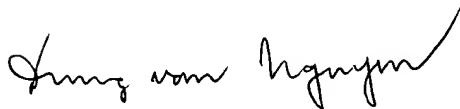
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17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J Hail can be reached on 703-308-2687. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

18. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.

DVN

September 26, 2002

A handwritten signature in cursive script, appearing to read "Dung Van Nguyen".

Dung Van Nguyen
Patent Examiner